Nilfisk P 130.2/150.2/160.2

EN User Manual

Nilfisk

EN

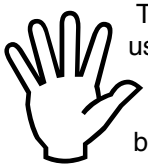
Index

1 Safety precautions and warnings 3
2 Description 5
3 Before you start using your pressure washer 6
4 Operating your pressure washer 7
5 Fields of application and working methods 11
6 After using your pressure washer 13
7 Maintenance 14
8 Trouble Shooting 15
9 Further information 16
10 EC Declaration of Conformity 18

1 Safety Precautions and Warnings

Symbols used to mark instructions

Before starting up your high-pressure washer for the first time, this instruction manual must be read through carefully. Save the instructions for later use.



This symbol is used to mark safety instructions that must be observed to prevent damage to the machine and its performance.

Safety instructions marked with this symbol must be observed to prevent danger to persons.

This symbol indicates tips and instructions to simplify work and to ensure a safe operation.

Do not let children or people who have not read the instruction manual operate the machine.

This appliance is not intended for use by children or other persons without assistance or supervision if their physical, sensory or mental capabilities prevent them from using it safely. Children should be supervised to ensure that they do not play with the appliance.

Before starting up your machine please check it carefully for any defects. If you find any, do not start up your machine and contact your Nilfisk distributor.

Especially check:

- The insulation of the electric cable should be faultless and without any cracks. If the electric cable is damaged, an authorized Nilfisk distributor should replace it.

WARNING!

- High pressure jets can be dangerous. Never direct the water jet at persons, pets, live electrical equipment or the machine itself.
- Never try to clean clothes or footwear on yourself or other persons.
- Hold the spray lance firmly with both hands. The spray lance is affected by a thrust of up to 16.4 N during operation.
- The operator and anyone in the immediate vicinity of the site of cleaning should take action to protect themselves from being struck by debris dislodged during operation. Wear goggles during operation.
- This appliance has been designed for use with cleaning agents supplied or recommended by the manufacturer. The use of other cleaning agents or chemicals may

EN

adversely affect the safety of the appliance.
- Disconnect from electrical power supply before carrying out user maintenance.
- To ensure the appliance safety only use original spare parts from the manufacturer or approved by the manufacturer.
- High pressure hoses, fittings and couplings are important for the safety of the appliance. Only use hoses, fittings and couplings recommended by the manufacturer.
- Do not use the appliance if a supply cord or important parts of appliance are damaged, e.g. safety device , high pressure hose and trigger gun.
- The appliance is intended for cleaning outdoors.
- Appropriate ear protection must be used.
- Never use the machine in an environment where there could be a danger of explosion. If any doubt arises, please contact the local authorities.
- It is not allowed to clean asbestos-containing surfaces with high pressure.
- This high pressure washer must not be used at temperatures below 0°C.
- Never let any persons stay under the product when stored on the wall.

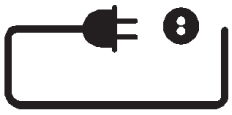
WARNING!
Inadequate extension cables can be dangerous. Cables on reels should always be completely unwound to prevent the cable from overheating.

Extension cables should be of a watertight construction and comply with the below-mentioned requirements for length and cable dimensions.

1.0 mm²	max.	12.5 m
1.5 mm²	max.	20 m
2.5 mm²	max.	30 m

- If the electric cable is damaged, it must be replaced by the manufacturer or his service agent or similarly qualified person in order to avoid a hazard.

Mains power connection



The following should be observed when connecting the high pressure washer to the electric installation:
- Only connect the machine to an installation with earth connection.
- The electric installation shall be made by a certified electrician.
- It is strongly recommended that the electric supply to this machine should include a residual current device (GFCI).

Water connection
Connection to the public mains according to regulations.

This high pressure washer is only allowed to be connected with the drinking water mains, when an appropriate backflow preventer has been installed, Type BA according to EN 1717. The backflow preventer can be ordered under number 106411177. The length of the hose between the backflow preventer and the high pressure washer must be at least 10 metres to absorb possible pressure peaks (min diameter ½ inch).
Operation by suction (for example from a rainwater vessel) is carried out without backflow preventer. Recommended suction set: 126411387.
As soon as water has flown through the BA valve, this water is not considered to be drinking water any more.

IMPORTANT! Only use water without any impurities. If there is a risk of silt, sand or sediment in the inlet water (i.e. from your own well), an additional filter should be mounted.

Repair and maintenance
WARNING! Always remove the electric plug from the socket before carrying out maintenance work on the machine.

Safety devices
Locking device on spray handle (7a) (see illustration at the end of this manual)*:*
The spray handle features a locking device. When the button is activated, the spray handle cannot be operated.

Thermal sensor:
A thermal sensor protects the motor against overloading. The machine will restart after a few minutes when the thermal sensor has cooled.

Pressure safety device
An integrated hydraulic safety valve protects the system from excessive pressure.

2 Description

EN

2.1 Application

This high-pressure washer has been developed for domestic use for cleaning:

- *Car, motorbike, boat, caravan, trailer, patio/drive/flagstones, woodwork, brickwork, barbecue, garden furniture, lawn mower*

Section 5 describes the use of the high-pressure washer for vaious cleaning jobs.

Only use the high-pressure washer for purposes described in this manual.

The safety precautions must be observed to prevent damage to the machine, the surface to be cleaned or severe personal injuries.

2.2 Operation elements and model survey

See illustration at the end of this manual.

1 Start/stop switch
2 Water inlet (with filter)
3 High pressure connection (only machines without hose reel)
4 High pressure hose
5 Electric cable
6 Spray lance
7 Spray handle with lock (7a)
8 Tornado® PR nozzle
9 Powerspeed® nozzle
10 Detachable detergent container
11 Nozzle cleaning tool
12 Dosing of detergents
13 Hose reel
14 Hose hook (only machines without hose reel)
15 Model tag
16 Button for telescopic handle
17 Telescopic handle
18 Turnable cable hook

Specifications: See model tag (15) of machine.

Sound pressure level measured in accordance with ISO 3744 EEC directive 2000/14/EEC:

P 130.2:
L_{pA} = 80 dB(A), L_{WA} = 90 dB(A)
P 150.2:
L_{pA} = 80 dB(A), L_{WA} = 93 dB(A)
P 160.2:
L_{pA} = 80 dB(A), L_{WA} = 95 dB(A).

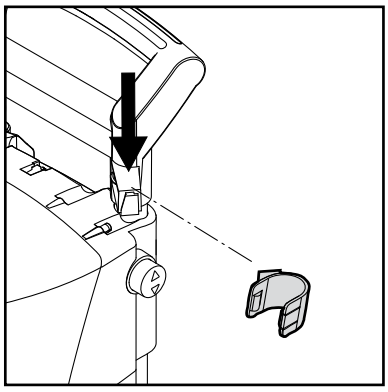
Hand/arm vibrations measured according to ISO 5349 below 2.5 m/s^2.

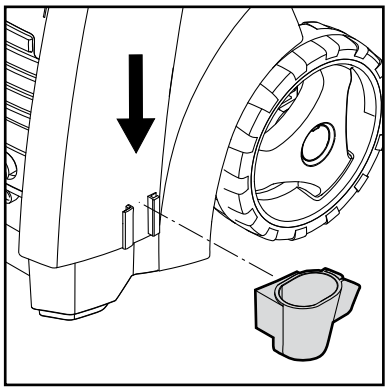
We reserve the right to alter the specifications.

EN

3 Before you start using your pressure washer

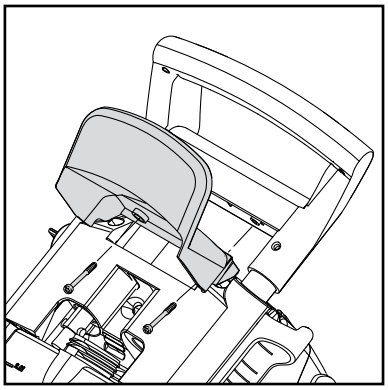
3.1 Mounting of holders for spray lance





Mount the holders for spray lance on the machine.

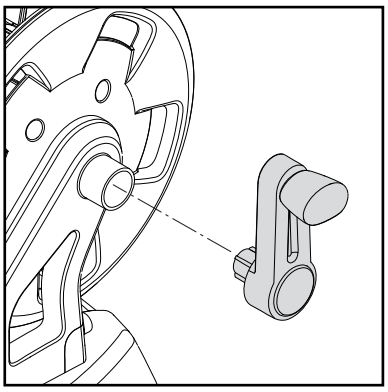
3.2 Mounting of hose hook (only models without hose reel)



Mount the hose hook (14) on the handle (2 screws).

Note: the hose hook can be mounted on the front as well as on the back. Front position is to be used if the product is used together with a special wall hook for wall storage.

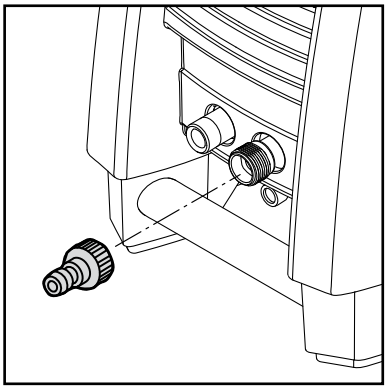
3.3 Mounting of hose reel handle (only models with hose reel)



1. Click the hose reel handle on to the trolley handle (no screws).

EN

3.4 Mounting of quick coupling

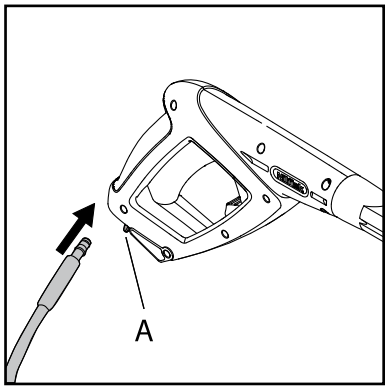


1. Screw the quick coupling tight on to the water inlet (2).

Note: The inlet filter must always be fitted in the water inlet pipe to filter out sand, limestone and other impurities as these will damage the pump valves.

Caution: Failure to fit the filter will invalidate the guarantee.

3.5 Mounting of high pressure hose

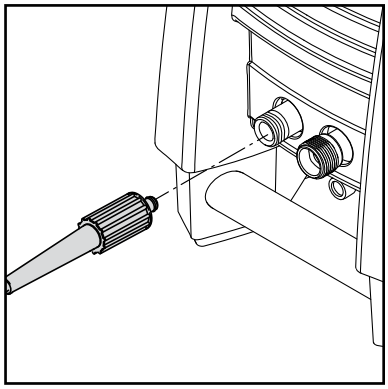


Attach the high pressure hose (4) to the spray handle (7).

Detach the high pressure hose by pressing the pawl.

4 Operating your pressure washer

4.1 Connection of high pressure hose



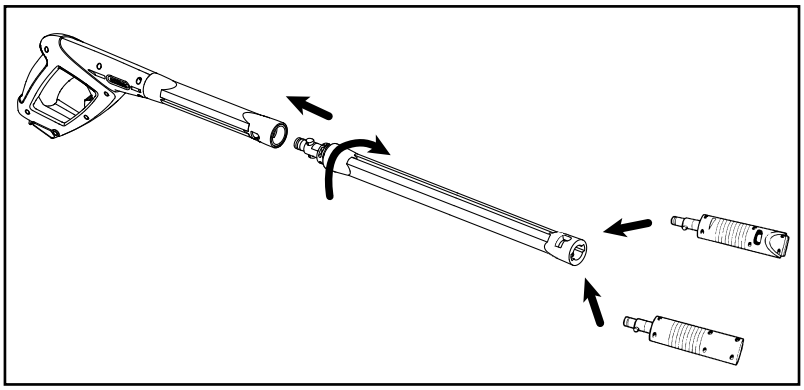
Machines without hose reel: Attach the high pressure hose (4) to the high pressure connection of the machine (3).

Only max. 7 m additional extension hose can be added.

Machines with hose reel: Unwind the high pressure hose completely.

EN

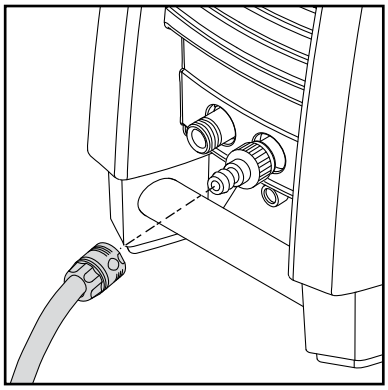
4.2 Mounting of spray lance and nozzles



1. Push the spray lance (6) into the spray handle (7) and twist it until the bayonet coupling locks into position.
2. Attach the nozzle.

4.3 Water connection

An ordinary 1/2" garden hose of **min. 10 m** and **max. 25 m** will be suitable.



IMPORTANT! Only use water without any impurities. If there is a risk of silt, sand or sediment in the inlet water (i.e. from your own well), an additional filter should be mounted.

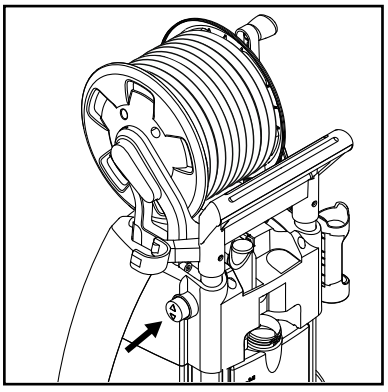
1. Let the water run through the water hose before connecting it to the machine to prevent sand and dirt from penetrating the machine.

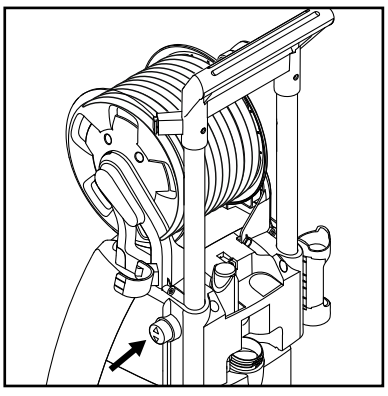
Note: Check that the filter is fitted in the water inlet pipe and that it is clean and free from debris.

2. Connect the water hose to the water supply by means of the quick connector (inlet water, max. pressure: 10 bar, max. temperature: 60°C).
3. Turn on the water.

NOTE: Connection to the public mains according to regulations.

4.4 Telescopic handle





The machine features a telescopic handle. To raise or lower the handle, press the button (16) and move the handle upwards or downwards. When a click is heard, the handle is in right position.

EN

4.5 Start and stop of the machine (when connected to a water supply)

The spray lance is affected by a thrust during operation - therefore always hold it firmly with both hands. **IMPORTANT**: **Point the nozzle at the ground.**

1. Check that the machine is in upright position.
   NOTE: Do not place the machine in tall grass!
2. Release the trigger lock.
3. Activate the trigger of the spray handle and let the water run until all air has escaped from the water hose.
4. Turn the start/stop switch (1) to position "**I**".
5. Activate the trigger of the spray handle.

Always adjust the distance and thus the pressure of the nozzle to the surface, which is to be cleaned.
Do not cover the machine during operation.

Note: If the machine is left or not used for 5 minutes, it must be switched off on the start/stop switch "**O**" (1):

1. Turn the start/stop switch to position "**O**".
2. Disconnect the electrical plug from the socket.
3. Shut off the water supply and activate the trigger to relieve the machine of pressure.
4. Lock the spray handle.

When releasing the trigger of the spray handle, the machine automatically stops. The machine will start again when you re-activate the spray handle.

4.6 Start the machine (when connected to open containers (suction mode))

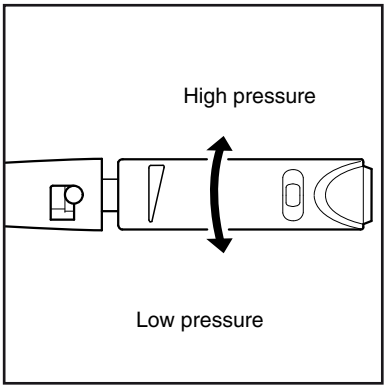
The washer can take in water from a rain water tank as an example. The hose for the water supply must not be too long, approx. 5 m.

Make sure that the water tank is not placed on a lower level than the machine.

Use an external filter if the water contains impurities.

1. Make sure that the water hose is filled completely with water before connecting to the machine. Place the entire hose in a tank or bucket. To avoid water spillage, crimp the water inlet hose down in the water and then connect the hose to the machine with the quick coupling and finally uncrimp the water inlet hose.
2. Dismount spray handle, lance and nozzle.
3. Turn the start/stop switch to position "**I**" and let the water run, until the air has escaped from the water hose and the pump.
4. Mount spray handle, lance and nozzle again.

4.7 Pressure regulation on the TORNADO® PR-nozzle



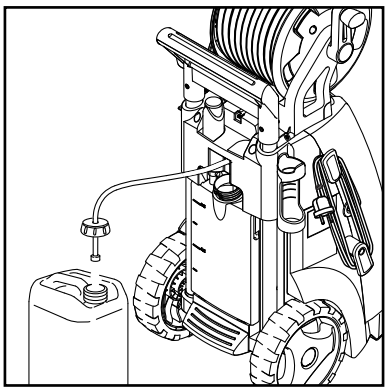
The pressure can be regulated on the TORNADO® PR nozzle.

EN

4.8 Operation with detergents

Application of detergents is **NOT** possible if an extension hose is applied.

1. Fill the container with a detergent.
2. Mount the TORNADO® PR nozzle and adjust it to low pressure (see section 4.7).
3. Adjust the dosing regulator (12) to the required volume of detergent (0-5%).



4. Apply the detergent from below and upwards.
5. Let the detergent act for the time stated on the packing of the detergent and flush with pure water.

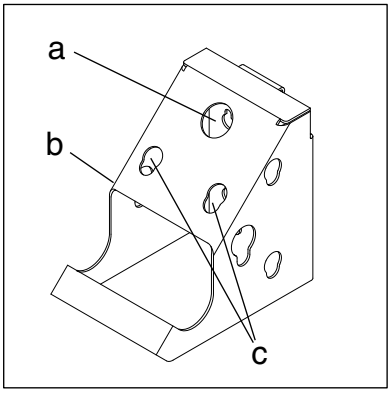
Separate detergent container

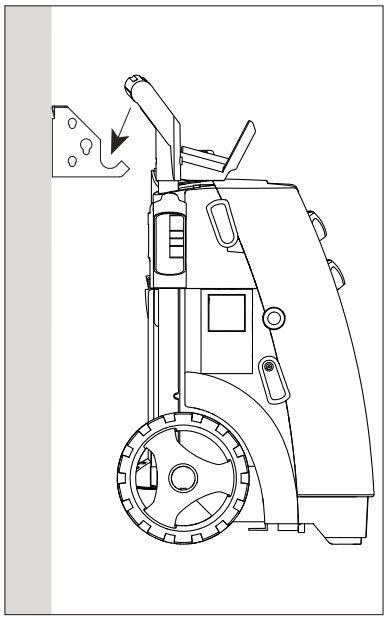
1. Remove the cover with suction hose from the detergent container.
2. Mount the cover with suction hose on the separate detergent container.

The cover has a standard thread and fits common detergent containers. If your container does not have a standard thread, detach the filter from the suction hose and remove the cover. Remount the filter in the suction hose.

Extra detergent hose can be pulled out of the machine.

4.9 Stationary use

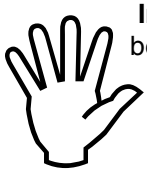




If mounting a special wall hook (not standard), the pressure washer can be used as a stationary solution meaning that it can be operated while hanging on the wall.

Only mount the wall hook on a sturdy wall. Adjust the length of the screws and size of rawlplugs to the type of wall.

On the wall hook garden/rim brush (a), brush (b) and nozzles (c) can be stored.



Important: The bearing capacity of the wall hook is max. 30 kg.

EN

5 Fields of application and working methods

5.1 General

Efficient high presure cleaning is achieved by following a few guidelines, combined with your own personal experience of specific cleaning tasks. Accessories and detergents, when correctly chosen, can increase the efficiency of your pressure washer. Here is some basic information about cleaning.

5.1.1 Detergent and foam

Foam or detergent should be applied onto dry surfaces so that the chemical product is in direct contact with the dirt. Detergents are applied from bottom to top, for example on a car bodywork, in order to avoid "super clean" areas, where the detergent collects in higher concentration and streams downwards. Let the detergent work for several minutes before rinsing but never let it dry on the surface being cleaned. **Note:** It is important that the detergents do not dry up. Otherwise the surfac that has to be cleaned can be damaged.

5.1.2 Mechanical effect

In order to break down tough layers of dirt, additional mechanical effect may be required. Special wash brushes offer this supplementary effect that cuts through dirt (especially by car washing).

EN

5.2 Typical fields of application

Below you will find a description of a lot of cleaning tasks which can be solved by a pressure washer from Nilfisk in association with accessories and detergents.

Task	Accessories	Cleaning method
Car	Tornado® PR nozzle, auto brush, underchassis spray lance, Car Combi Cleaner	1. Apply Car Combi Cleaner. Always start from the bottom and work upwards. Let Car Combi Cleaner act for at least 5 min. 2. Wash the car with the Tornado® PR nozzle. Start at the front of the car and work backwards to avoid water from penetrating by the door mouldings. 3. Use the brush for removal of traffic film which is not removed by the nozzle. If the car is very dirty, apply Car Combi Cleaner again. 4. Attach the undercarriage spray lance and clean undercarriage and wheel arches. 5. Remove water from the surface of the car with the squeegee on the car brush. **Make sure** that all grains of sand etc. have been removed before using the squeegee Wipe with a wash leather where the squeegee cannot reach.
Rims, aluminium	Rim brush, atomizer, Alu Cleaner	Apply Alu Cleaner with an automizer. Let it act for approx. 5 min. and wash with the rim brush. For steel rims, use Car Combi Cleaner. Wash with rim brush. **Be careful!** The high pressure jet may damage the tyres.
Flagstones, concrete floors and other hard surfaces	Powerspeed® nozzle, Stone & Wood Cleaner, Patio Cleaner	Wash towards outlets or the like. On surfaces with moss or algae you may start by applying Stone & Wood Cleaner. Wash before the soap dries. Another more effective and quicker method is to use the Patio Cleaner. Thus you will also avoid splashes.
Garden furniture, wood	Wood Cleaner Garden brush	Apply Wood Cleaner and wash before the soap dries. **NOTE:** Use the garden brush to clean off the dirt.
Brickwork, Wood work	Powerspeed® nozzle, Stone & Wood Cleaner, Patio Cleaner	Same method as for flagstones, but **be careful -** bad joints and wood may be damaged by high pressure. You may choose only to use the Tornado® nozzle. Adjust the distance (pressure) to the quality of the joints and the wood. Patio Cleaner can also be used on vertical surfaces.
Gutter	Underchassis spray lance	Wash the gutter with the underchassis spray lance. Always wash towards down-pipes. **Beware** not to spray under the roofing.
Cleaning of drain pipes, outlets, down pipes etc.	Tube cleaner	Push the tube cleaner approx. ½ m (to mark) into a tube or drain and activate the trigger of the spray handle. The nozzle opening turning backwards will pull the cleaner through the tube. The nozzle will break down the „plug“ and flush the dirt backwards.
Rust, paint	Water/sandblasting equipment	Mount the water/sand blasting equipment and rust and paint is efficiently and quickly removed. Beware not to damage the surface to be sandblasted.
Greenhouse	Tornado® PR nozzle, brush, Stone & Wood Cleaner	Wash with high pressure and maybe a brush. You may use Stone & Wood Cleaner to remove moss and algae.
Garden tools, lawn mover	Tornado® PR nozzle, Powerspeed® nozzle, Metal Cleaner	Rinse the worst dirt off with the Tornado® PR nozzle. Apply Metal Cleaner and let it act for approx. 5 min. Wash with the nozzle.

EN

6 After using your pressure washer

6.1 Storing the washer

The machine should be stored in a frost-free room!

Pump, hose and accessories should always be emptied of water prior to storing as follows:

1. Stop the machine (turn the start/stop switch (1) to position "**O**" and detach water hose and accessory.
2. Restart the machine and activate the trigger. Let the machine run until no more water runs through the spray handle.
3. Stop the machine and unplug. Wind the electric cable round the hooks placed on the side of the machine.
4. Separate spray handle and high pressure hose.
5. *Machines without hose reel:* Detach high pressure hose, coil it up and place it on the hose storage.
   Machines with hose reel: Coil the high pressure hose up on the hose reel.
6. Place spray handle, nozzles and other accessories in the holders of the machine.

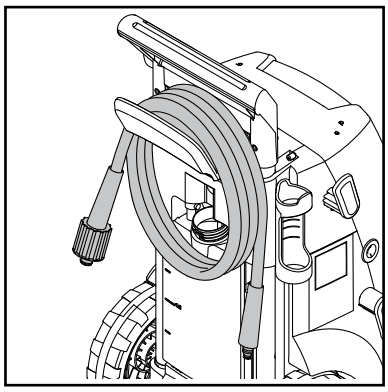
Should the machine by mistake be frozen, it will be necessary to check it for damage.

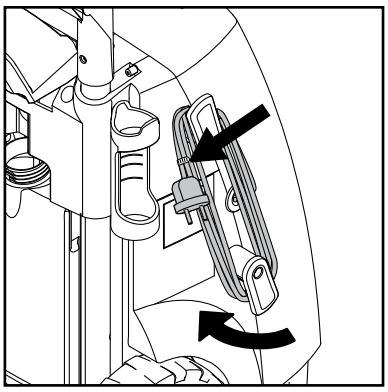
NEVER START-UP A FROZEN MACHINE.

Frost damages are not covered by the guarantee!

6.2 Winding up of electric cable and high pressure hose

To avoid accidents, the electric cable and the high pressure hose should always be wound up carefully.

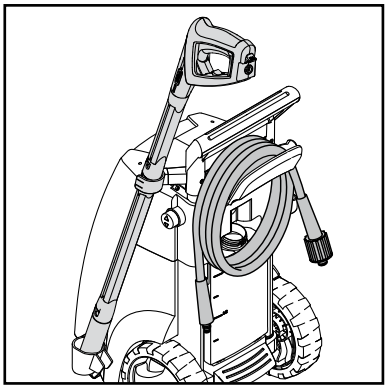


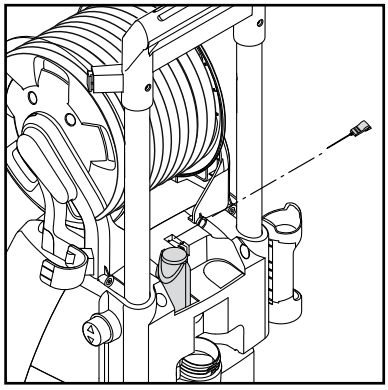


1. Wind up the electric cable on the appropriate hooks. Built-in clip for good holding. The lower hook can be turned to release the electric cable.

2. The high pressure washer comes in two models: A) with hook for storage of high pressure hose (14) - B) with a hose reel (13).

6.3 Storage of accessories

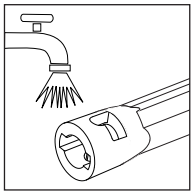




The standard accessories (spray handle, spray lance, nozzles and nozzle cleaning tool) can be stored on the pressure washer.

EN

7 Maintenance

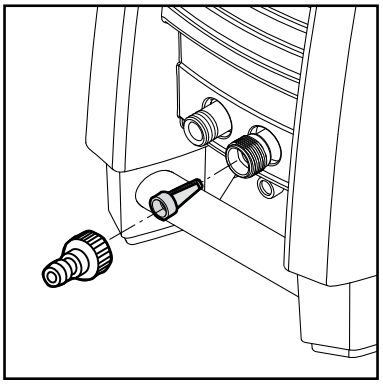


WARNING! Always disconnect the electrical plug from the socket prior to maintenance or cleaning.
To ensure a long and problem free working life, please take the following advice:

- Wash off water hose, high pressure hose, spray lance and accessories before mounting.
- Clean the connectors of dust and sand.
- Clean the nozzles.

Any repair should always be made in an authorized workshop with original spare parts.

7.1 Cleaning of water inlet filter

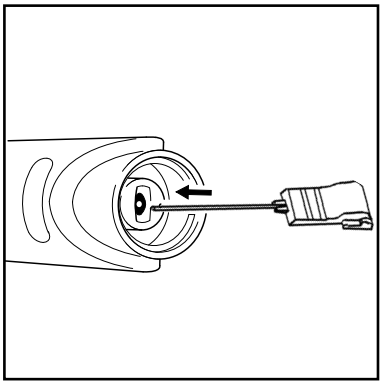


Clean the water inlet filter regularly once a month or more frequently according to use. Carefully loosen the filter with a pair of pliers and clean it. Check that it is intact before re-mounting it.

The inlet filter must always be fitted inside the water inlet pipe to filter out sand, limestone and other impurities, as they will damage the pump valves.

CAUTION: Failure to fit the filter will invalidate the guarantee.

7.2 Cleaning of nozzle



A clogging up in the nozzle causes a pump pressure which is too high. This is why cleaning is required immediately.

1. Stop the machine and disconnect the nozzle.
2. Clean the nozzle. **IMPORTANT:** The cleaning tool (11) should only be used when the nozzle is detached!
3. Flush the nozzle backwards with water.

7.3 Cleaning of machine vents

The machine should be kept clean so as to let cooling air pass freely through the machine vents.

7.4 Greasing of couplings

To ensure easy connection and that o-rings do not dry up, the couplings should be greased regularly.

EN

8 Trouble-shooting

Please ensure that you check the following before contacting the Nilfisk service organization:

Symptom	Cause	Recommended action
Machine refuses to start	Machine not plugged in Defective socket Fuse has blown Defective extension cable	Plug in machine. Try another socket. Replace fuse. Switch off other machines. Try without the extension cable.
Fluctuating pressure	Pump sucking air Valves dirty, worn out or stuck Pump seals worn out	Check that hoses and connections are air-tight. Clean and replace or refer to local Nilfisk distributor Clean and replace or refer to local Nilfisk distributor.
Motor busses	Low voltage or low temperature	Activate the trigger of the spray handle.
Machine stops	Fuse has blown Incorrect mains voltage Thermal sensor activated Nozzle partially blocked	Replace fuse. Switch off other machines. Check that the mains voltage corresponds to specification on the model tag. Leave the washer for 5 minutes to cool down. Clean the nozzle (see section 7.2)
Fuse blows	Fuse too small	Change to an installation higher than the amp. consumption of the machine. You may try without the extension cable.
Machine pulsating	Air in inlet hose/pump Inadequate supply of mains water Nozzle partially blocked Water filter blocked Hose kinked	Allow machine to run with open trigger until regular working pressure resumes. Check that the water supply corresponds to specifications required (see model tag) NB! Avoid using long, thin hoses (min. 1/2") Clean the nozzle (see section 7.2) Clean the filter (see section 7.1) Straighten out hose.
Machine often starts and stops by itself	Pump/spray handle is leaking	Contact your nearest Nilfisk Service Centre.
Machine starts, but no water comes out	Pump/hoses or accessory frozen No water supply Water filter blocked Nozzle blocked	Wait for pump/hoses or accessory to thaw. Connect inlet water. Clean the filter (see section 7.1) Clean the nozzle (see section 7.2)

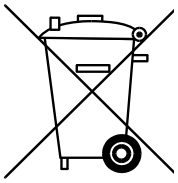
In case problems other than the above occur, please contact your local Nilfisk distributor.

UK:
JETWASH DIRECT LTD - 01484 306693
www.jetwashdirect.co.uk
Email - sales@jetwashdirect.co.uk

EN

9 Further information

9.1 Recycling the washer



Make the old cleaner unusable immediately.

1. Unplug the cleaner and cut the electric cable.

Do not discard electrical appliances with household waste.

As specified in European Directive 2002/96/EC on old electrical and electronic appliances, used electrical goods must be collected separately and recycled ecologically.

Contact your local authorities or your nearest dealer for further information.

9.2 Warranty conditions

Nilfisk guarantees high pressure washers for domestic use for 2 years. If your high pressure washer or accessories are handed in for repair, a copy of the receipt must be enclosed. Guarantee repairs are being made on the following conditions:

- that defects are attributable to flaws or defects in materials or workmanship. (wear and tear as well as misuse are not covered by the guarantee).
- that the directions of this instruction manual have been thoroughly observed.
- that repair has not been carried out or attempted by other than Nilfisk-trained service staff.
- that only original accessories have been applied.
- that the product has not been exposed to abuse such as knocks, bumps or frost.
- that only water without any impurities has been used.
- that the high pressure washer has not been used for rental nor used commercially in any other way.

Repairs under this guarantee include replacement of defective parts, exclusive of packing and postage/carriage. Besides, we refer to your national law of sale.

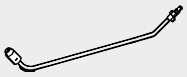
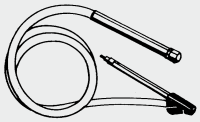
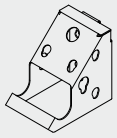
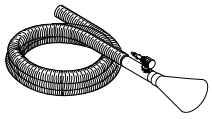
The machine should be forwarded to one of the service centres of the Nilfisk organisation with description/specification of the fault.

Repairs not covered by the guarantee conditions will be invoiced. (I.e. malfunctions due to **Causes** mentioned in section **Troubleshooting Chart** of the instruction manual).

EN

9.3 Accessories

Only use original accessories.

Brush		For cars and other surfaces.
Extension hose		7 m extension hose increasing the working range.
Underchassis spray lance		Special spray lance for washing your car underneath.
Drain & Tube cleaner		15 m long tube cleaner for the cleaning of tubes and drains.
Water-sand-blasting equipment		For removal of paint and rust. Sand available from do-it-yourself shops.
Patio Plus		Equipment for quick cleaning of patio/drive/flagstones.
Garden brush		Rotating brush for cleaning of wooden surfaces.
Rim brush		Rotating brush for cleaning of wheel rims.
Wall hook		For suspension of your high pressure washer on the wall.
Water suction kit		For removal of large amounts of water from e.g. garden pounds.
Rotary brush		For cleaning vehicles and other surfaces.
Roof cleaner		For removal of coatings on roofs, walls, greenhouses, etc. With optional brush for cleaning of caravans, trailers, windows, etc.

EN

Detergents

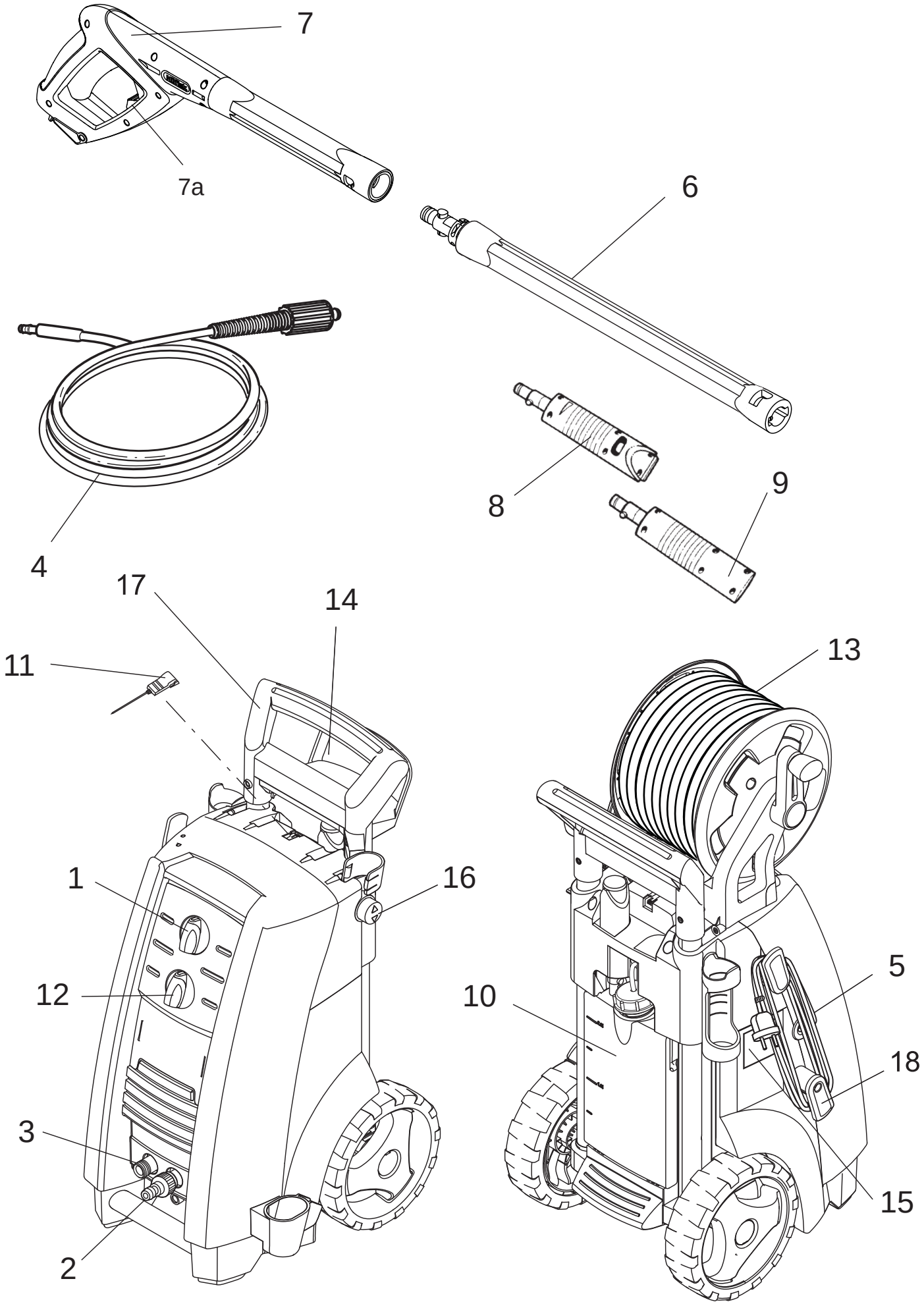
Stone & Wood Cleaner	For flagstones, brick- and woodwork. Suitable for moss and algae.
Plastic Cleaner	For plastic and synthetic materials such as garden furniture.
Metal Cleaner	For cleaning of metal such as garden tools.
Car Combi Cleaner	For cars etc. With rinsing wax.
Alu Cleaner	For surfaces of aluminium. Applied with an atomizer.
Oil & Grease Cleaner	For cleaning of grease and oil on motors for instance. Applied with an atomizer.
Wood Cleaner	For cleaning of wooden surfaces incl. of wooden garden furniture.
Roof Cleaner	For removal of coatings on roofs, walls, greenhouses, etc.

10 EU Declaration of Conformity

CE

EU Declaration of Conformity

Product:	High Pressure Washer
Type:	Nilfisk P 150.2, P 160.2 Nilfisk P 130.2 X-TRA, P 150.2 X-TRA, P160.2 X-TRA
Description:	230 V 1~, 50 Hz - IP X5
The design of the unit corresponds to the following pertinent regulations:	EC Machine Directive 2006/42/EC EC Low-voltage Directive 2006/95/EC EC EMV Directive 2004/108/EC
Applied harmonised standards:	EN ISO 12100-1 (2004), EN ISO 12100-2 (2004) EN 60335-2-79 (2006) EN 55014-1 (2006), EN 55014-2 (2001), EN 61000-3-2 (2006)
Applied national standards and technical specifications:	BS EN 60335-2-79
Anton Sørensen General Manager, Technical Operations EAPC	Nilfisk Division of Nilfisk-Advance A/S Industrivej 1 DK-9560 Hadsund Hadsund, 01.07.2010


7
7a
6
4
8
9
17
14
11
13
1
16
12
10
5
18
3
15
2